RAVENFELL: MILLS



Before proceeding with this document, make sure you have read the beginners guide to card modeling included with this model set. Also, review all of your layer options before printing, there are several ways you can design your tower!

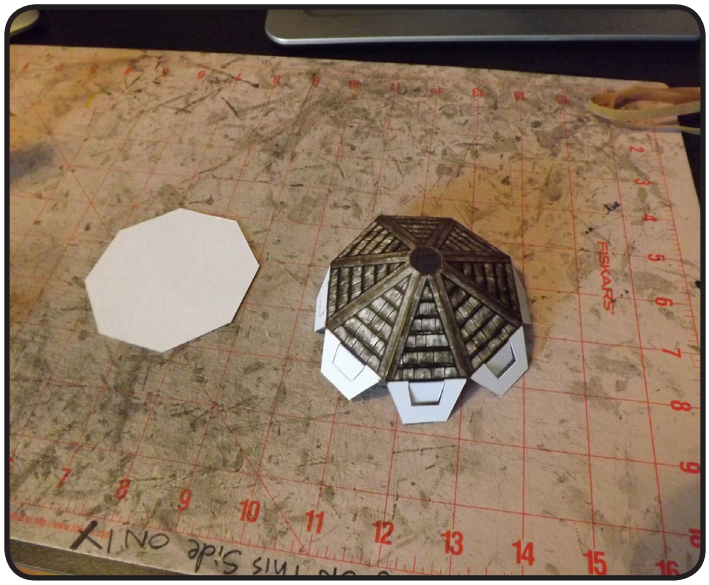
All miniatures shown in this document are from the BONES product line by ***REAPER MINIATURES*** **(www.reapermini.com)**

FAT DRAGON GAMES

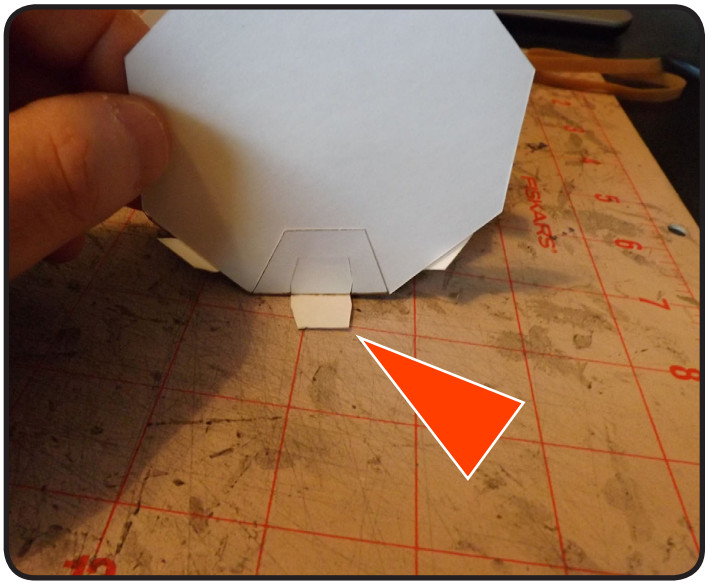
Permission granted to print this document and all related model files for personal use.

RAVENFELL: MILLS

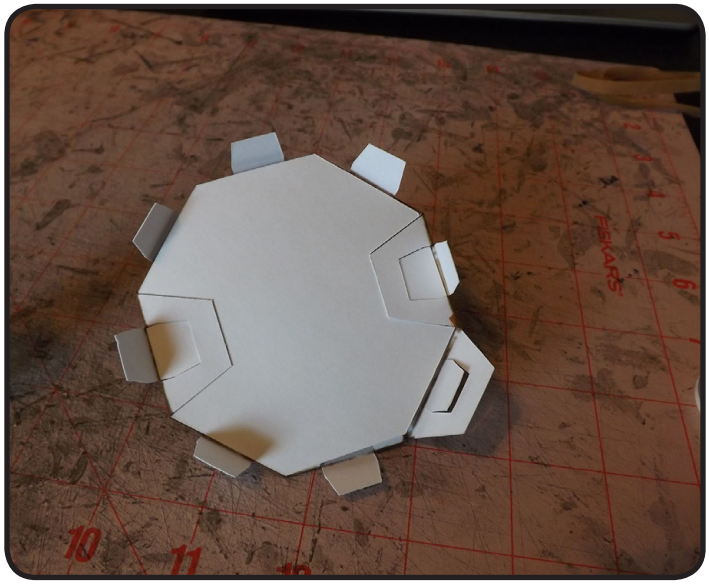
WINDMILL ROOF



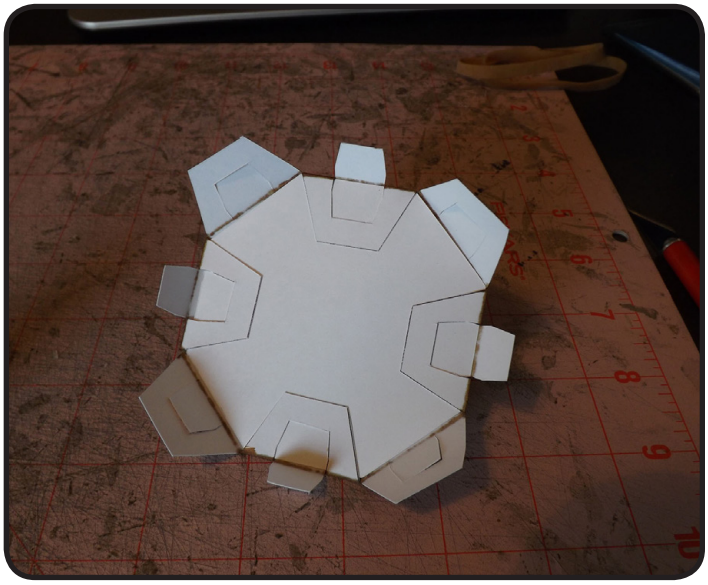
1: Cut and score the roof pieces.



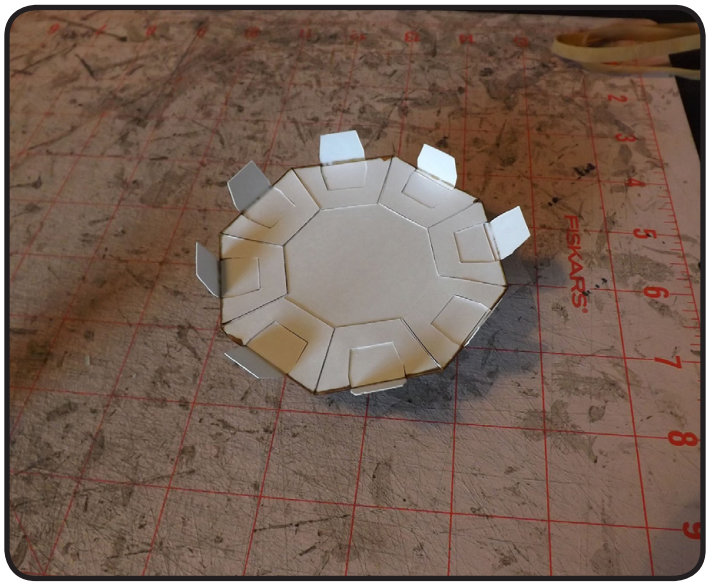
2: Begin gluing one tab to the bottom piece, make sure you do not glue the center tab down (this is what locks into the next lower level of the windmill.)



3:Glue the tab on the opposite side (this will help make sure that all remaining tabs are aligned.)



4: Next glue the tabs that are at right angles to the first two as shown.

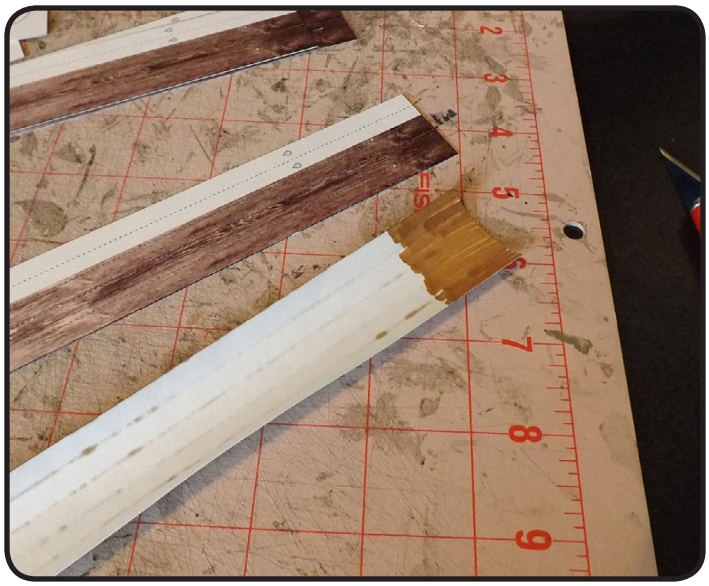


5: Finish by gluing the four remaining tabs.

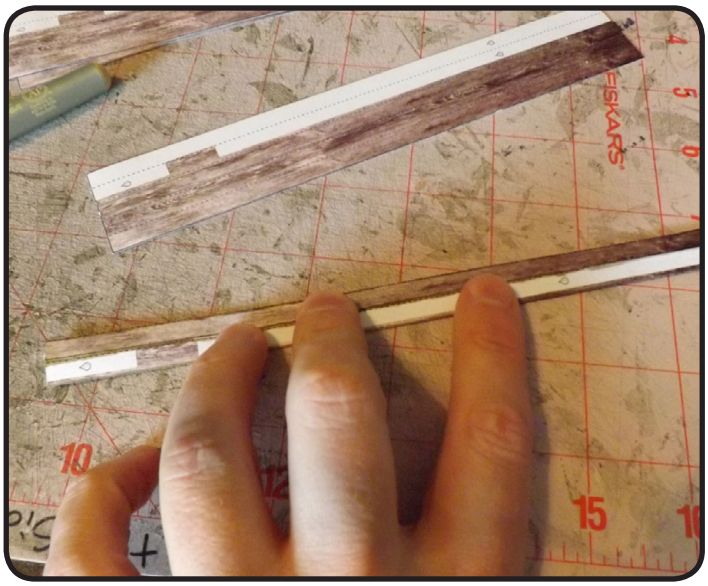


6: For all levels, the center (non glued) tabs insert into the slots of the level below it as depicted above.

SAILS



1: For better results, color the inside ends of the sail rods (the ends are open when constructed, coloring the inside ends brown or gray will make the final model look better.)



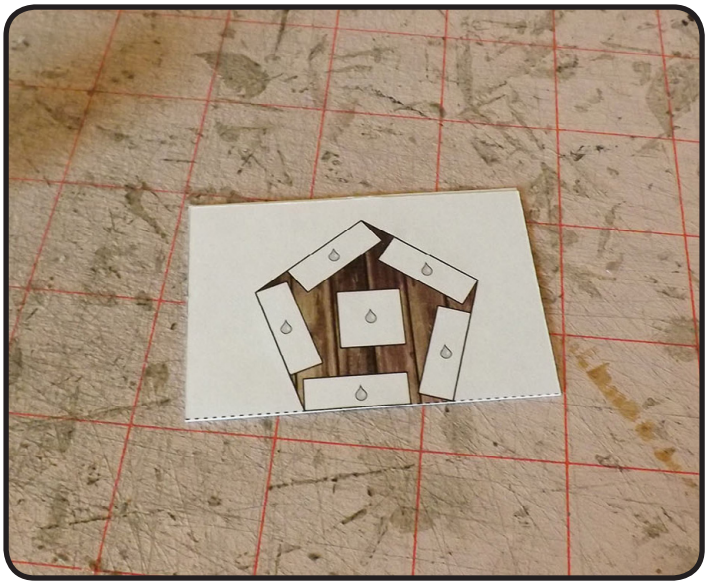
2: The easiest way to glue the rods is to fold the outer ends toward the center and glue so you can press flat against a surface. Remember to force it back into a 3D shape as soon as you establish the join so it doesn't glue permanently flat.



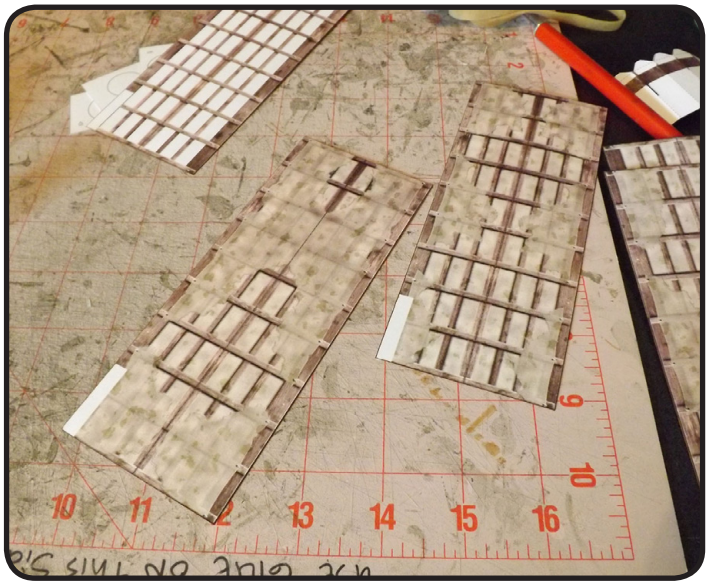
3: The finished rods.



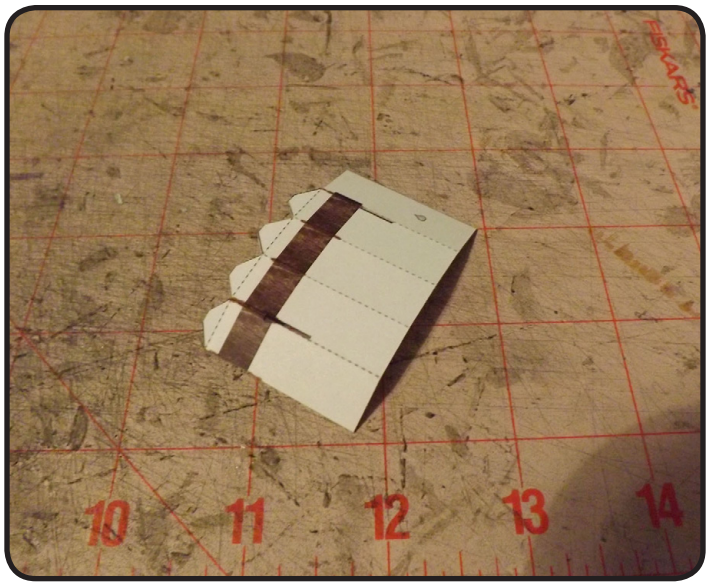
4: Construct the center hub (either 4 or 5 sail versions) by gluing in half.



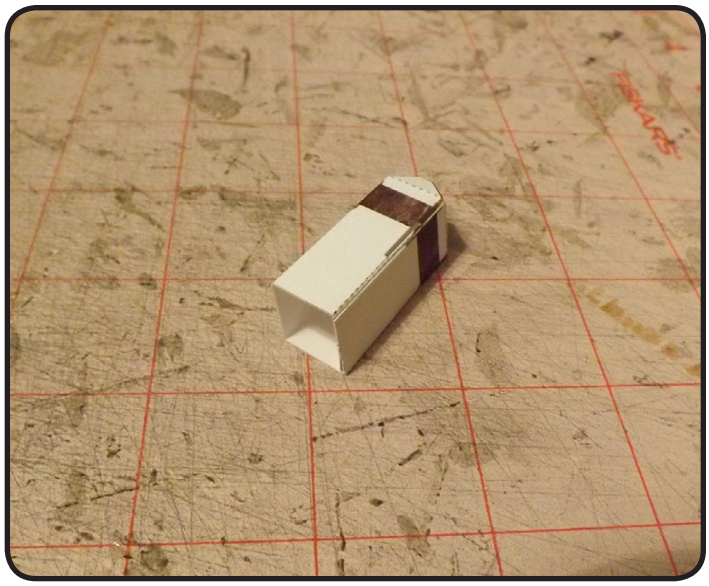
5: Allow to dry and then cut away the excess white areas.



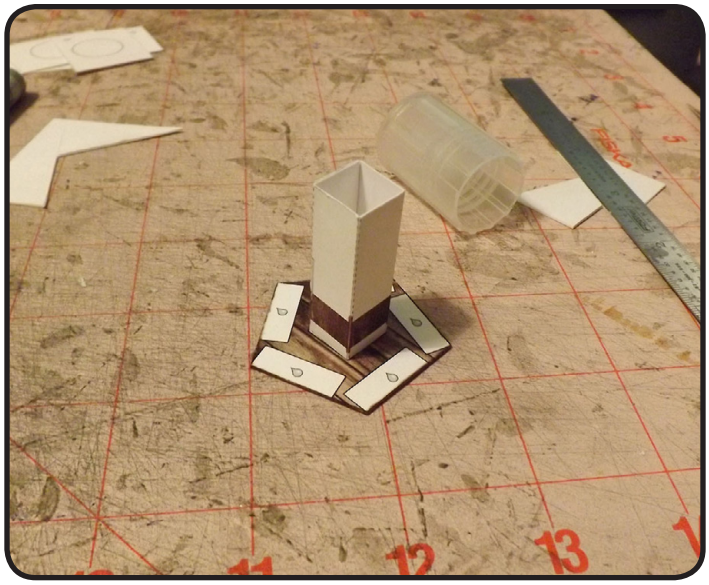
6: Next up is the sail blades. Cut out the basic overall rectangle, but not any interior cutouts you may want opened up (wait for this until they are glued in half.)



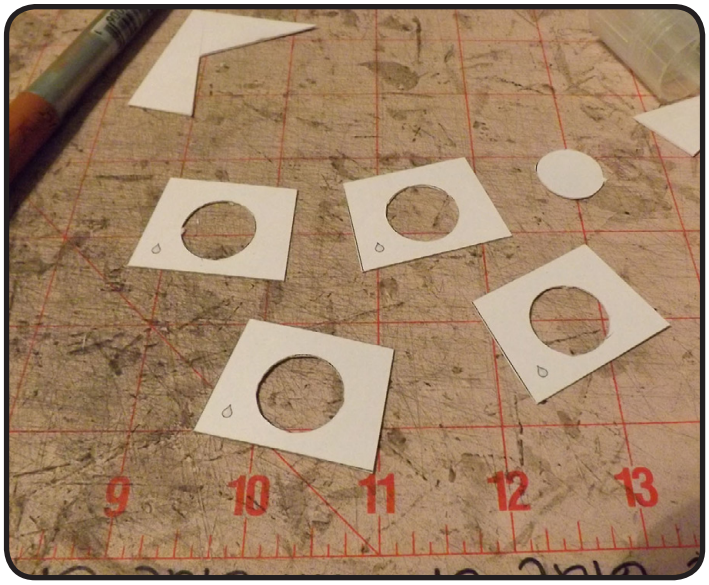
7: Cut, score and test fold the center axle. Note the slot that you need to cut in two places along the side.



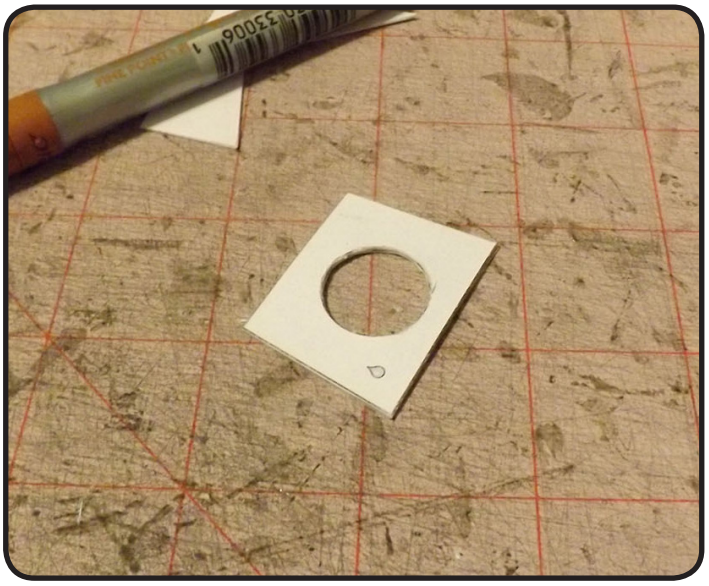
8: Glue into a square cross-section.



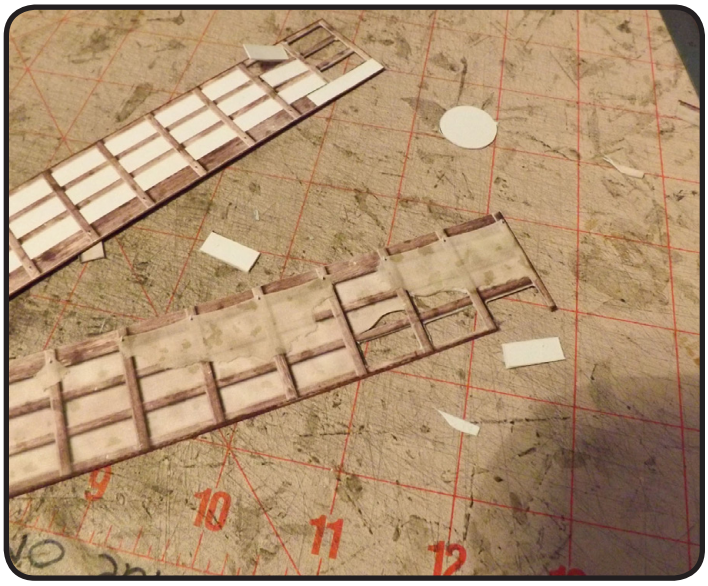
9: Glue the axle to the hub before gluing any of the sail arms.



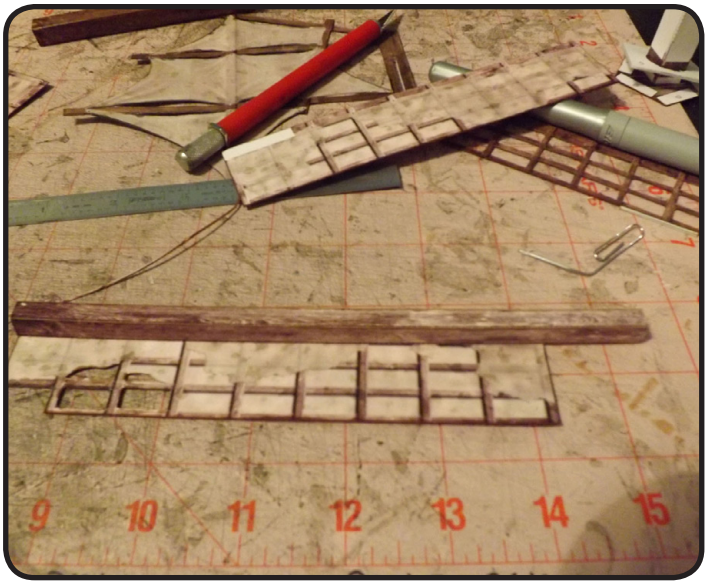
10: Cut out the reinforcement pieces.



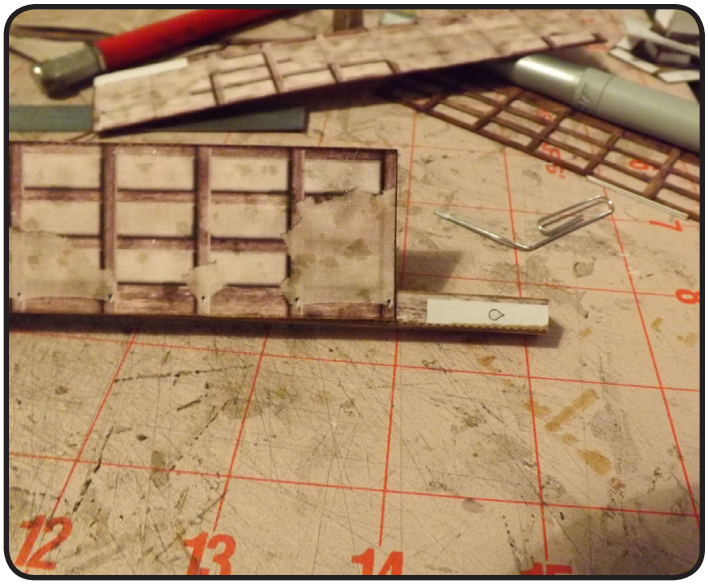
11: Glue the four reinforcement pieces together as shown above.



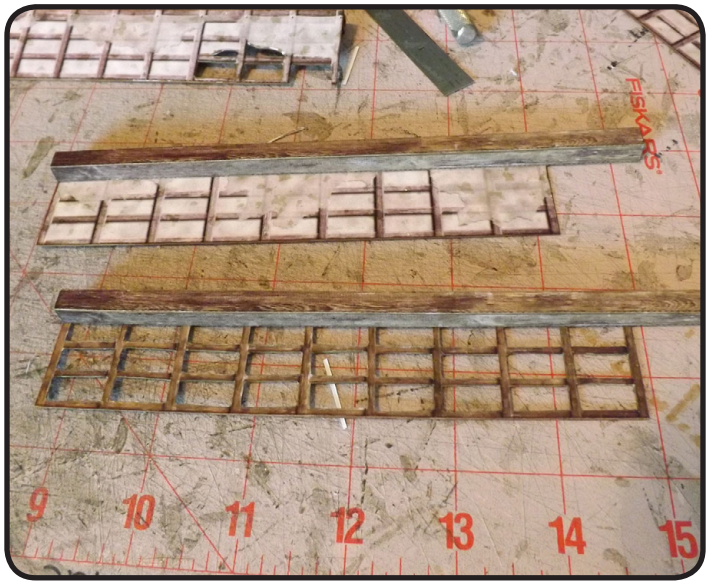
12: Once the sail blades have been glued in half and dried, you can cut out any of the interior openings you wish.



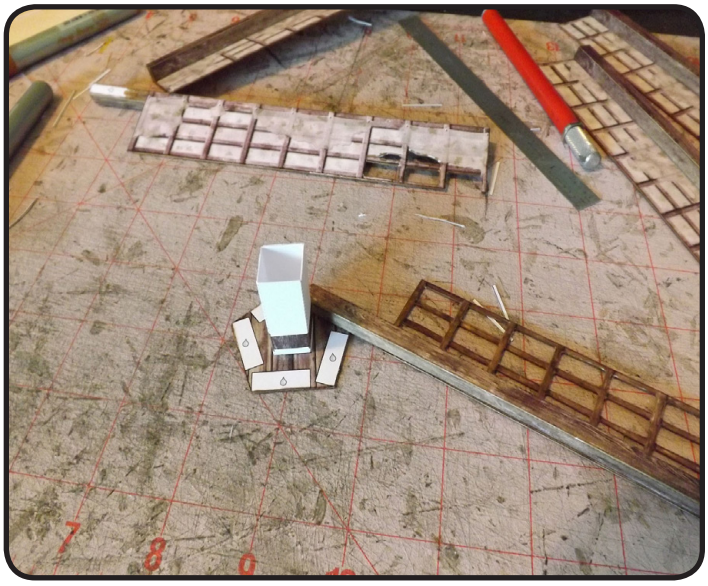
13: Glue the arms/rods to the sail as shown.



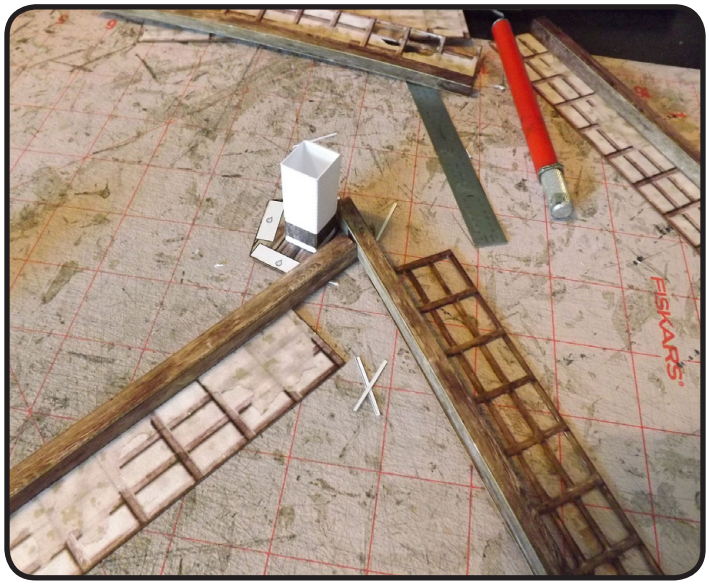
14: Another view.



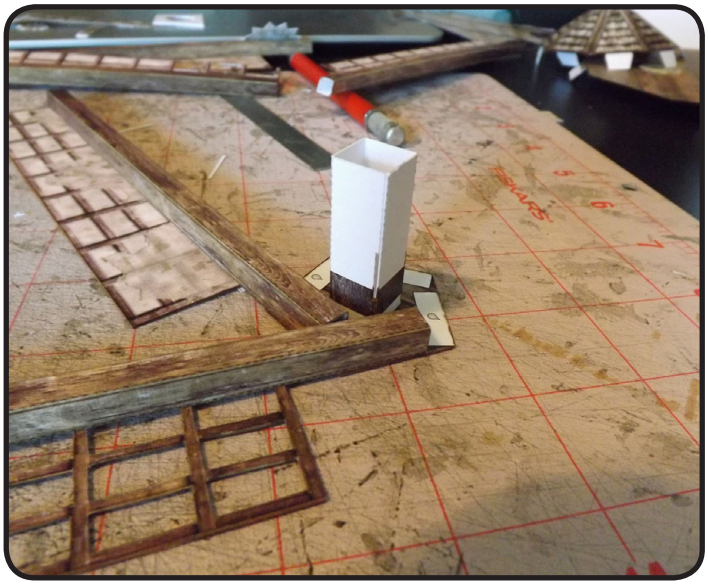
15: More finished sails.



16: Begin gluing to the hub.

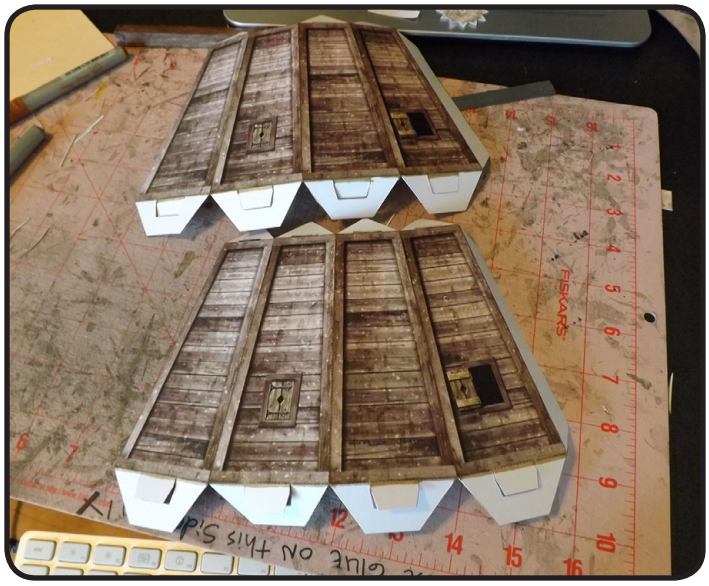


17: Continue gluing to the hub as shown.

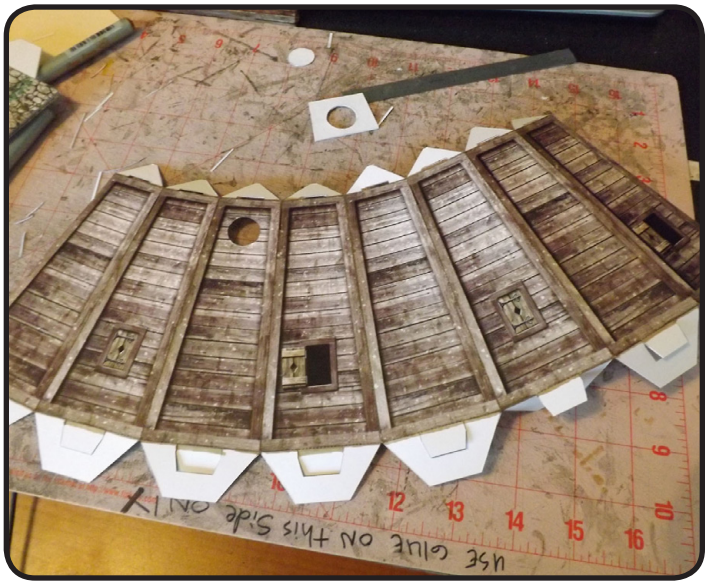


18: Another detail view.

UPPER WINDMILL



1: Cut, score and test fold the two sections of the upper mill.



2: Glue the halves together.

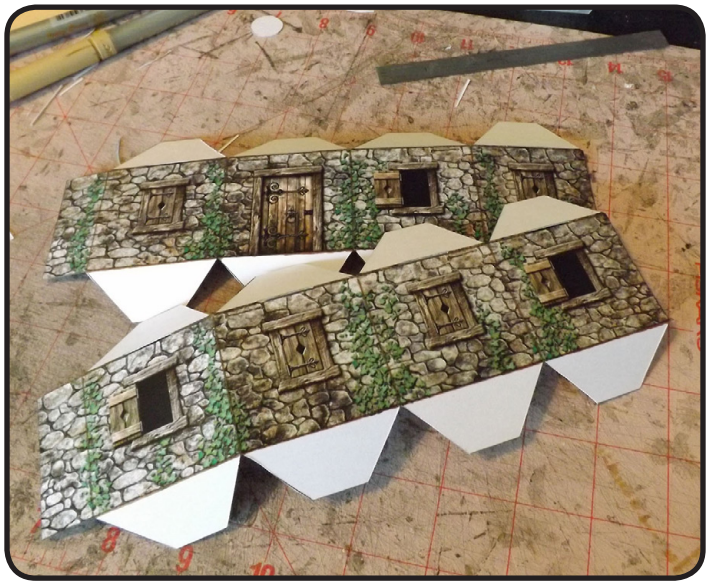


3: Glue the reinforcement piece to the rear side as depicted above. Once that is dry, glue the remaining edges of the pieces together to form the final shape.

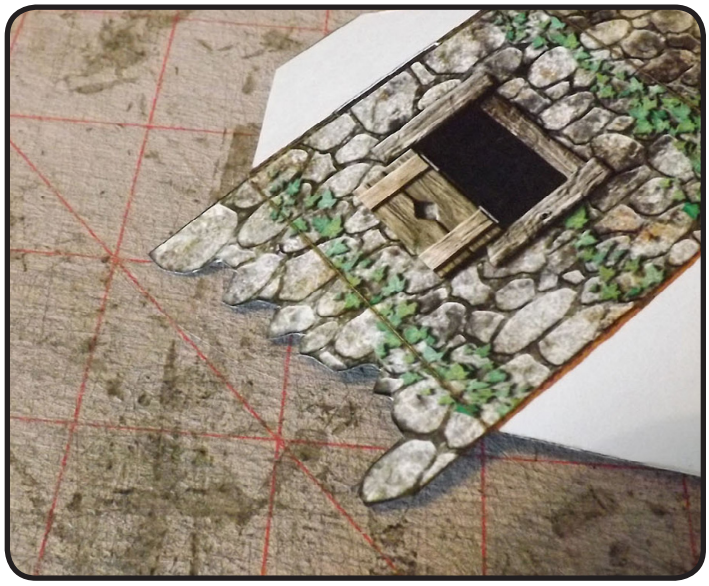


4: The slot you cut in the axil sides can be used to insert a paperclip through when the blades are attached to the main structure to keep them in place (we've shown this before gluing the upper structure together simply to allow a better photo to be taken.)

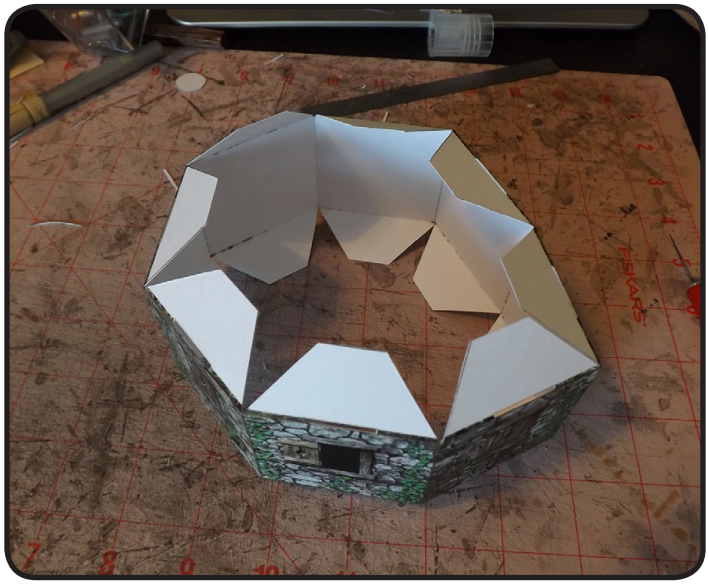
LOWER WINDMILL



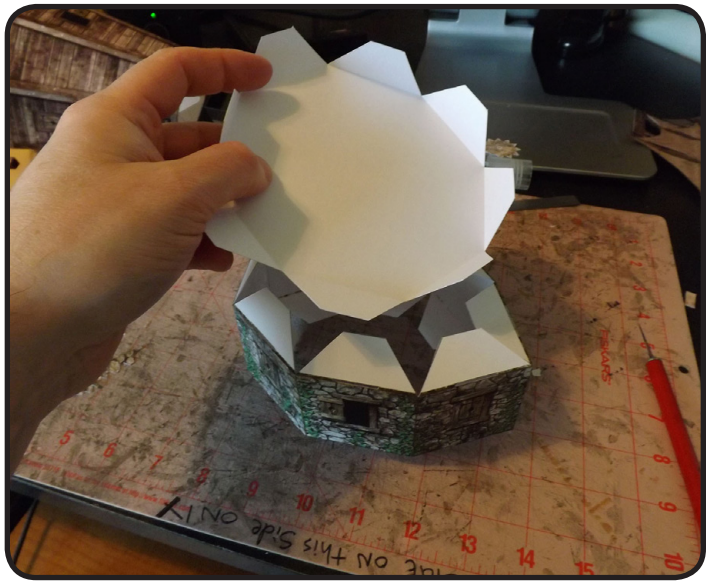
1: Cut, score and test fold the lower mill pieces.



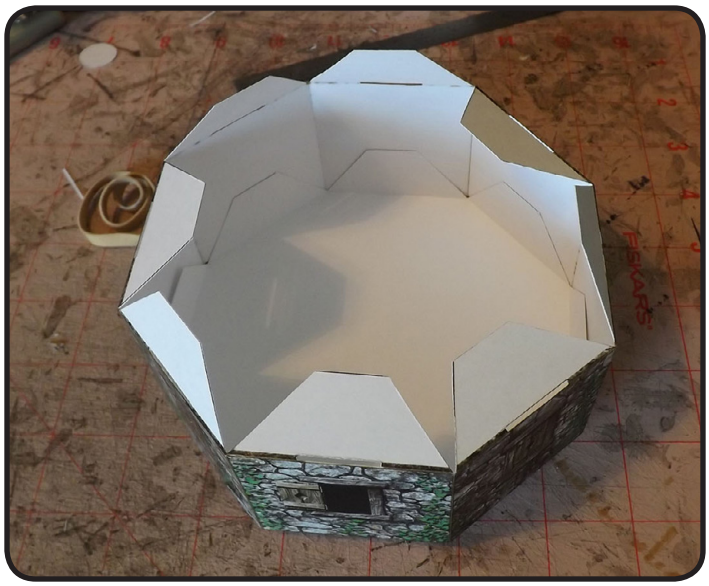
2: Cut the end flaps along the rock edges to better hide the seam on the finished model.



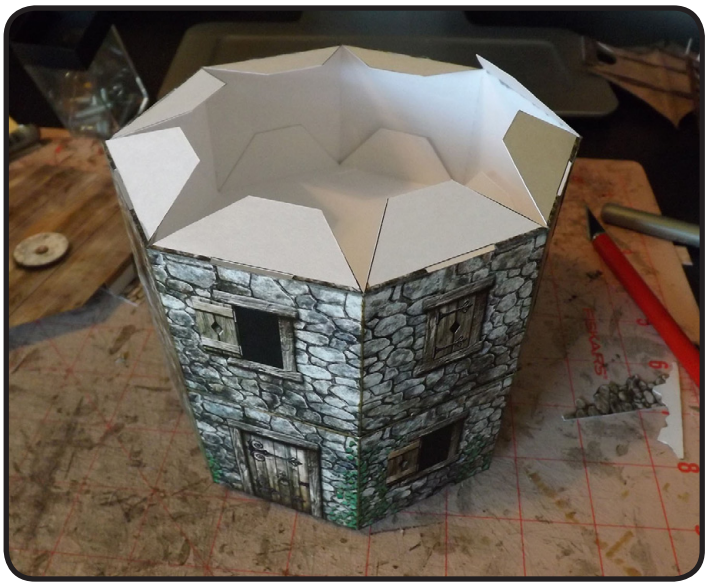
3: Glue the two wall halves together as shown above.



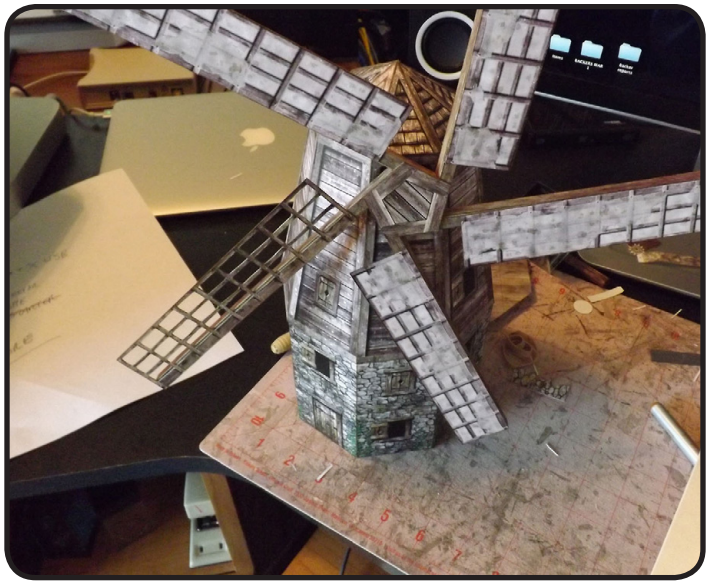
4: Use the insert piece to hold the walls in shape. Simply insert through the top (but do not glue.)



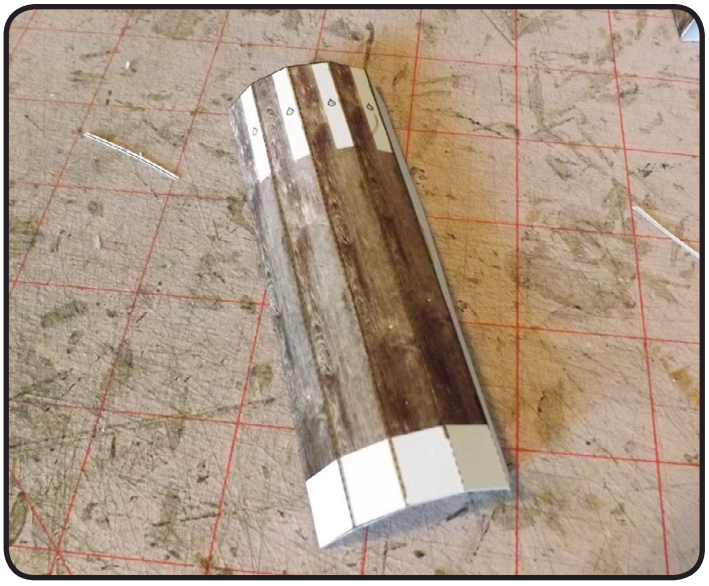
5: The insert in place.



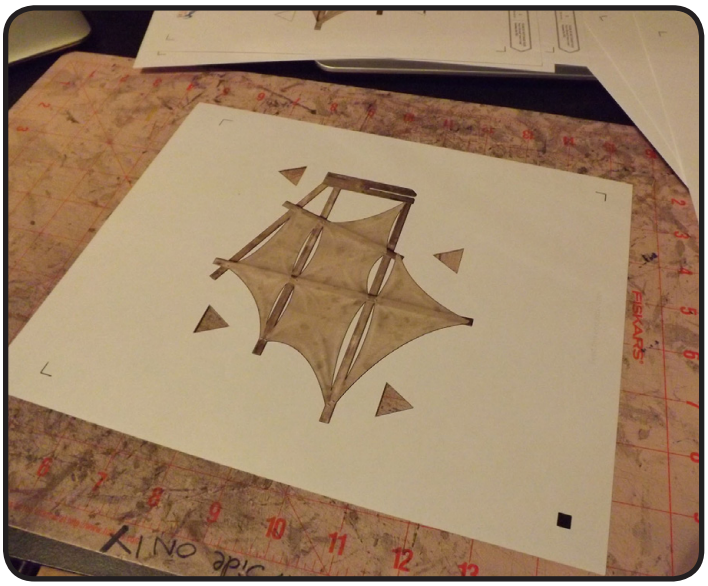
6: Sections of the mill can be stacked simply by inserting the lower tabs for the top piece through the slots in the lower piece.



7: The finished windmill.



8: Optional top-mounted sails are also included. These assemble much like the side-mount sail. Begin by constructing the center axle.



9: The sails require two sheets of paper to construct. Cut out the alignment triangles in the individual sheet, then glue the sheets together using the triangular openings to aid in alignment. We recommend putting them under some heavy books to dry overnight to avoid wrinkling.

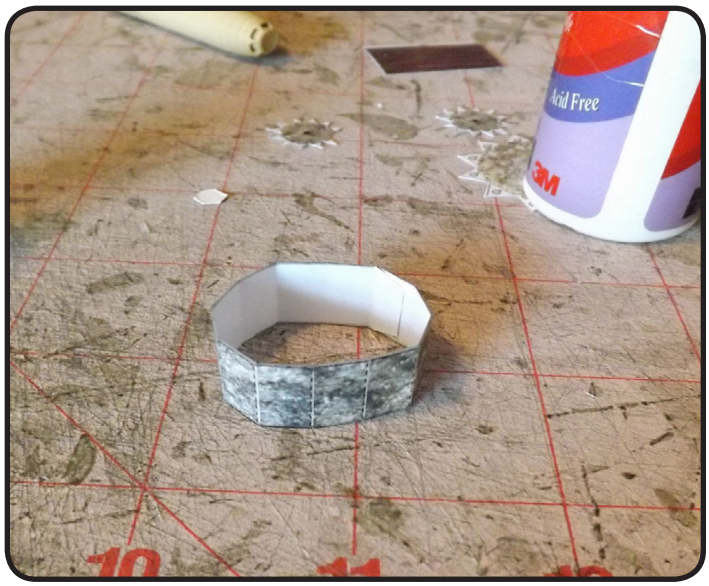


10: Cut out the sails, glue to the axle, and insert through the roof piece.

SMALL MILL



1: Cut out and score the individual pieces.



2: Glue the large ring.



3: Glue the top cap.



4: Color the interior of the center axle.



5: Glue the small ring, then insert and glue one end. Before gluing the ends, you can cut out the small black center hole to allow you to insert a toothpick later as the axle for it (optional).



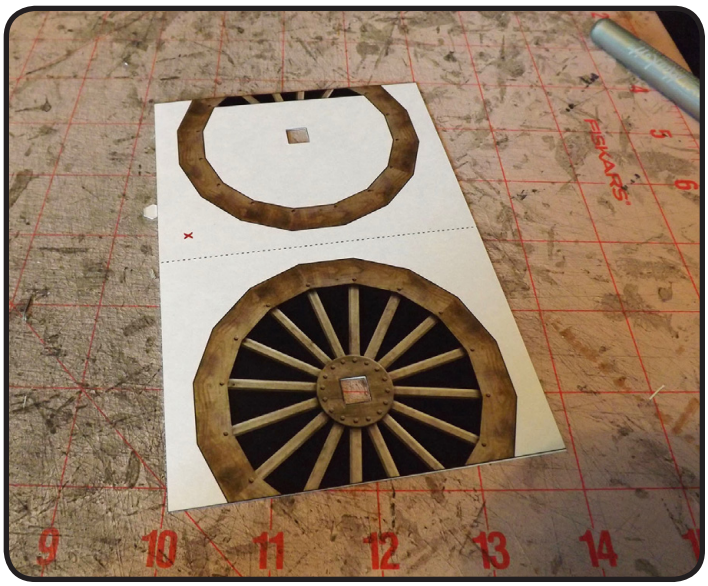
6: Glue the opposite end.



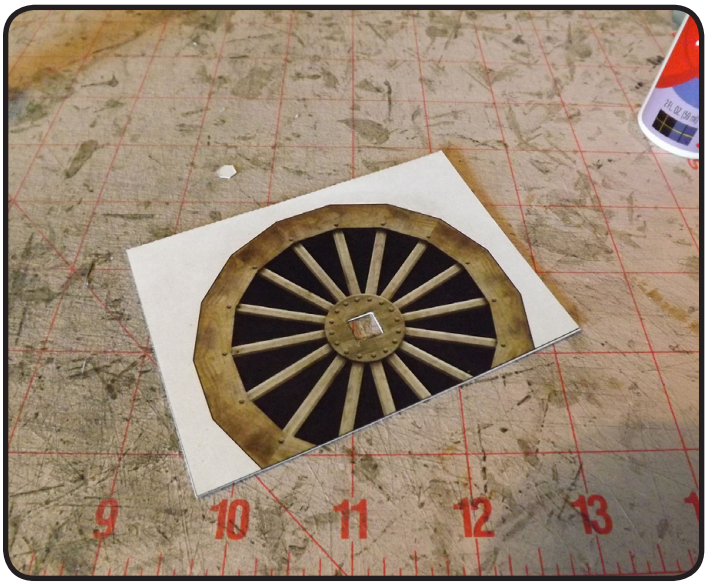
7: The finished mill. You can insert a round toothpick cut in half through the center of the small grind wheel and attach the other to the paper donkey (included.)

WATERMILL

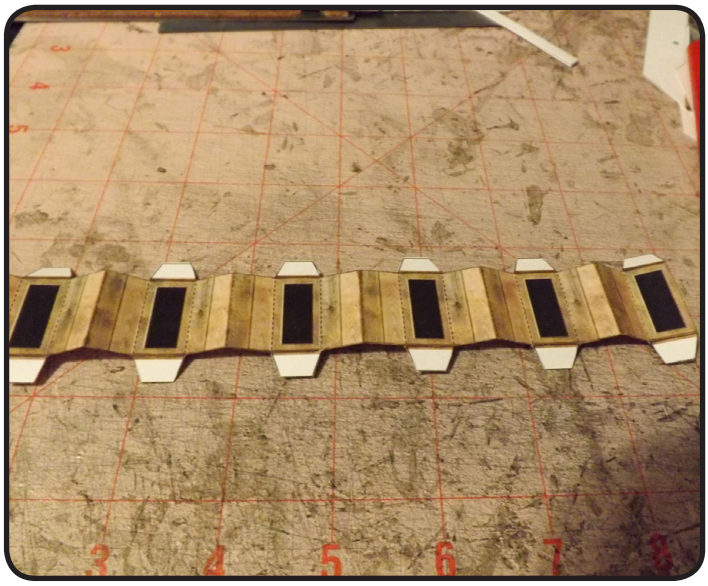
There are two water wheels included, a basic and complex version. No instructions for the basic wheel are included because the basic will be easily understood once you read through the complex wheel instructions shown here.



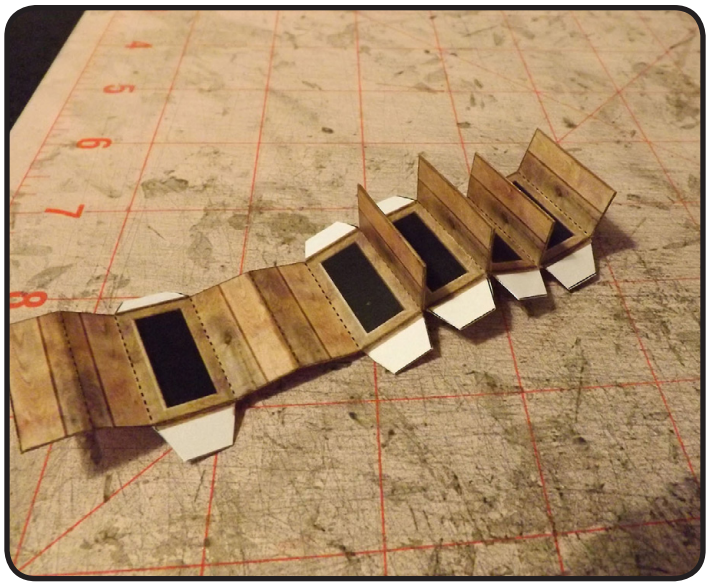
1: Cut out the wheel sides.



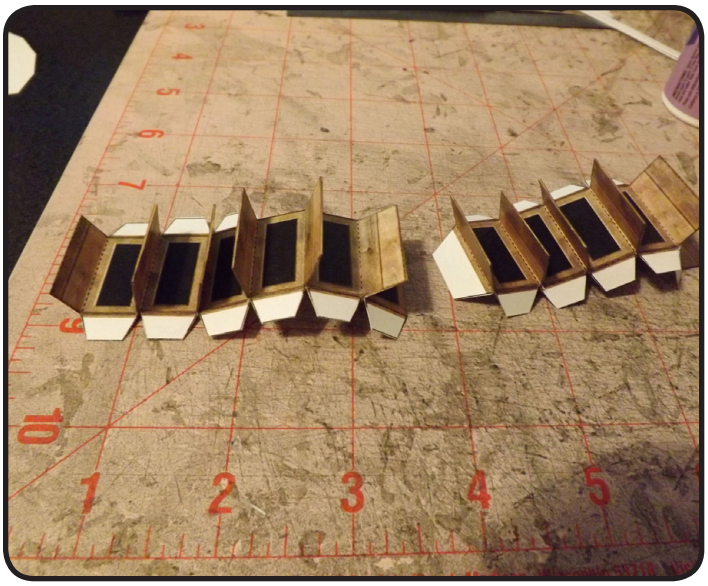
2: Glue in half and set aside to dry.



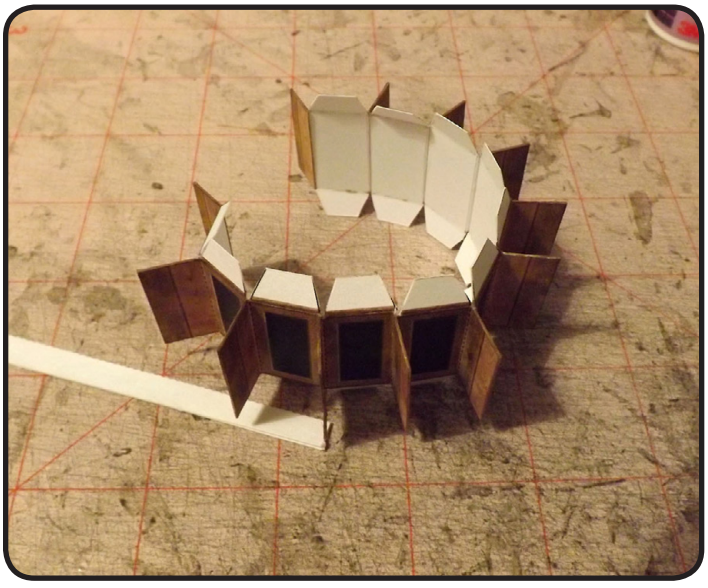
3: Cut out the wheel center pieces.



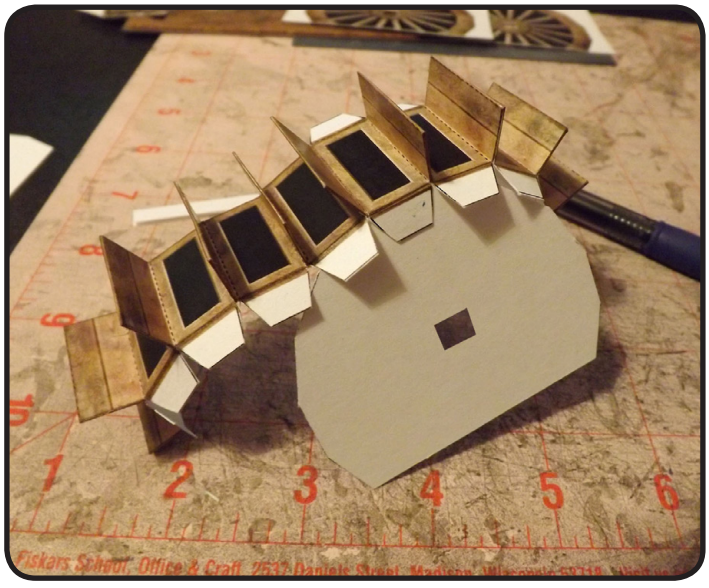
4: Begin folding and gluing the two wheel center pieces as shown above.



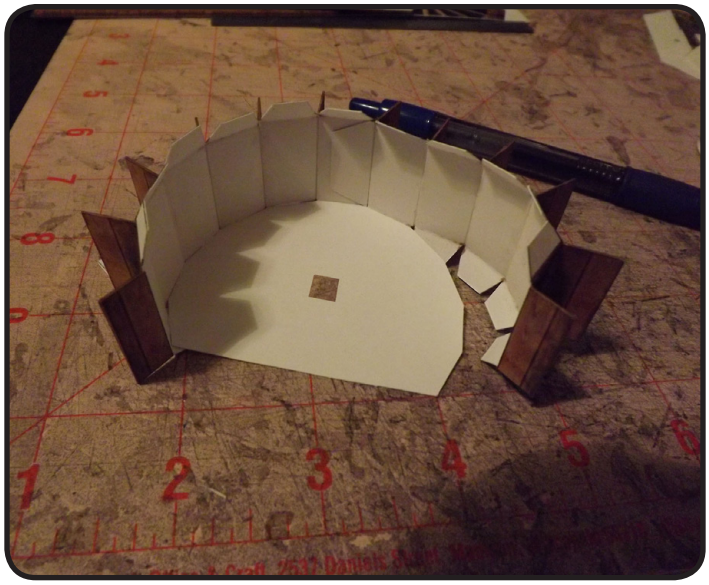
5: When finished, glue the two wheel center pieces together into one long piece.



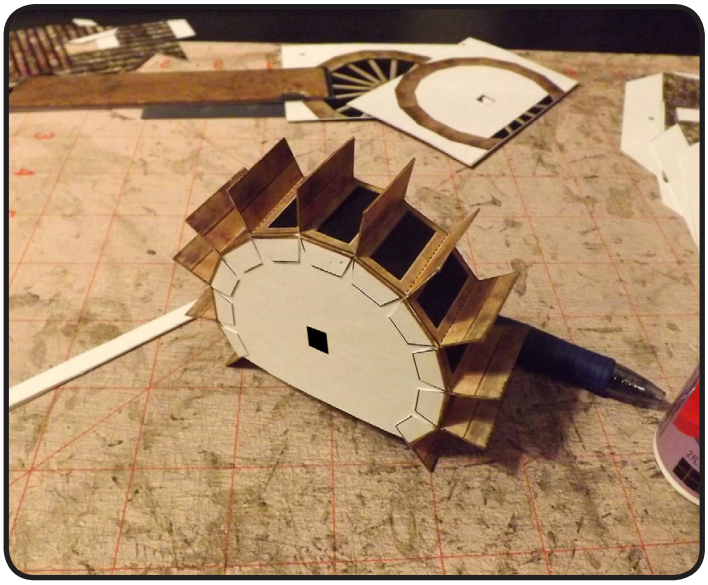
6: Wrap as shown into the rough wheel diameter.



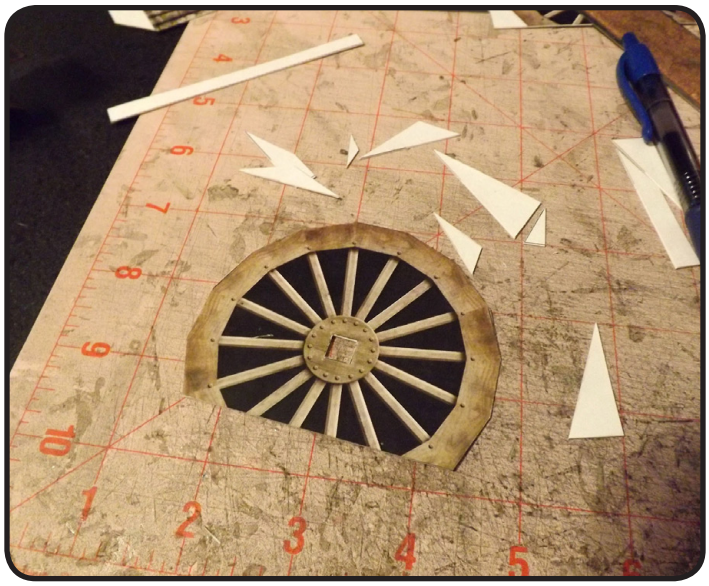
7: Begin gluing to one of the blank wheel sides (all white, no graphics) at the top center tab.



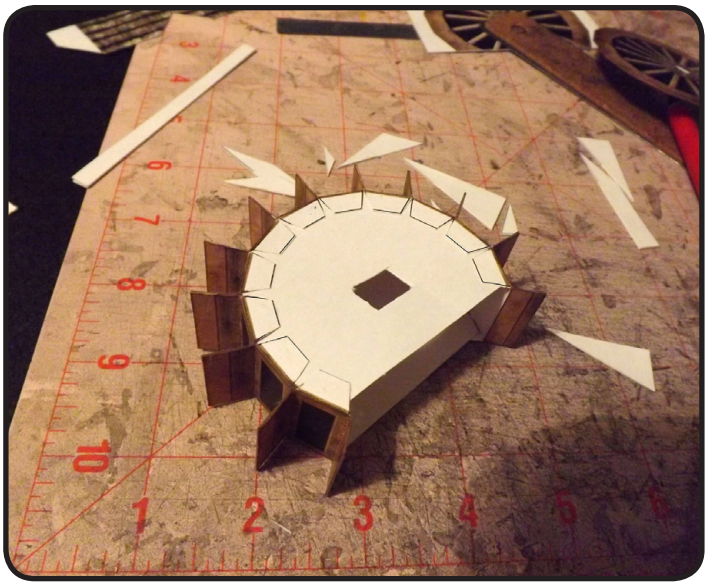
8: Continue gluing down each side as depicted above.



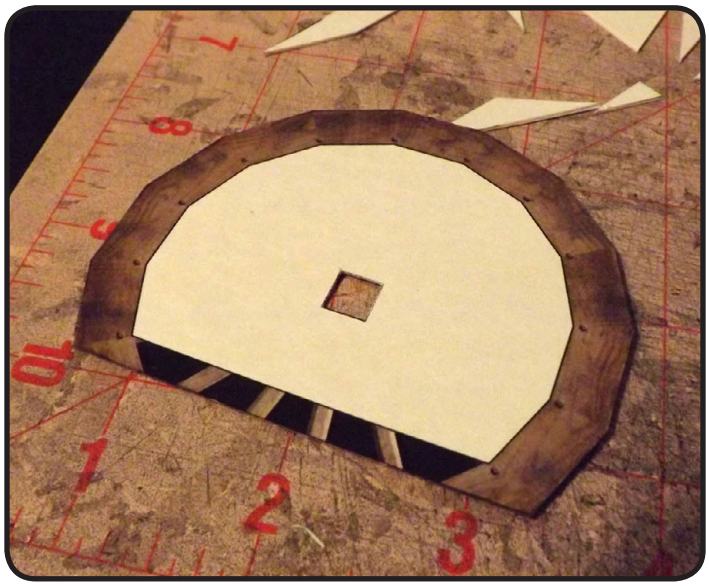
9: How it should look with one side glued. Repeat for the opposite side.



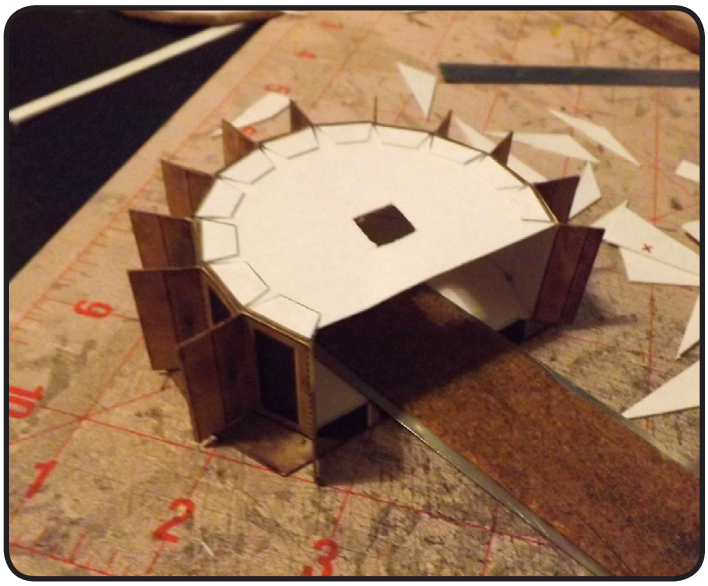
10: Fold the wheel sides in half, glue, and when dry cut away the excess white areas.



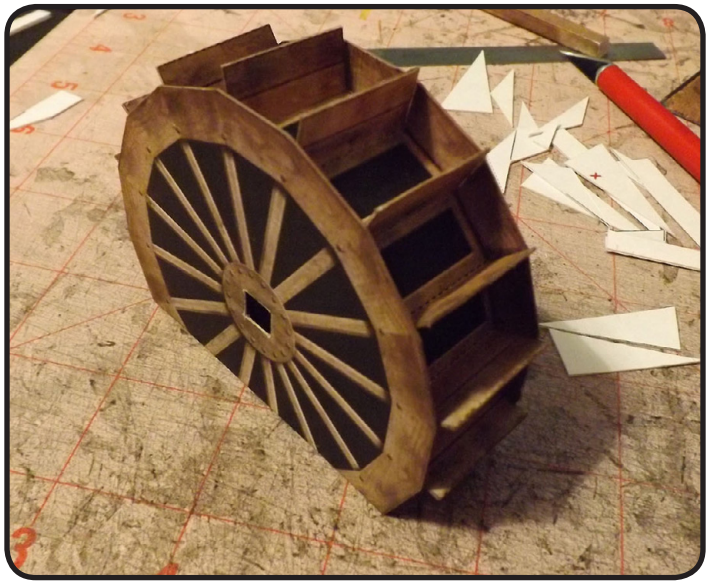
11: Apply a thin coating of glue to the side of the main wheel.



12: Make sure your center axil hole is cut out, then glue the outer wheel side to the main piece.



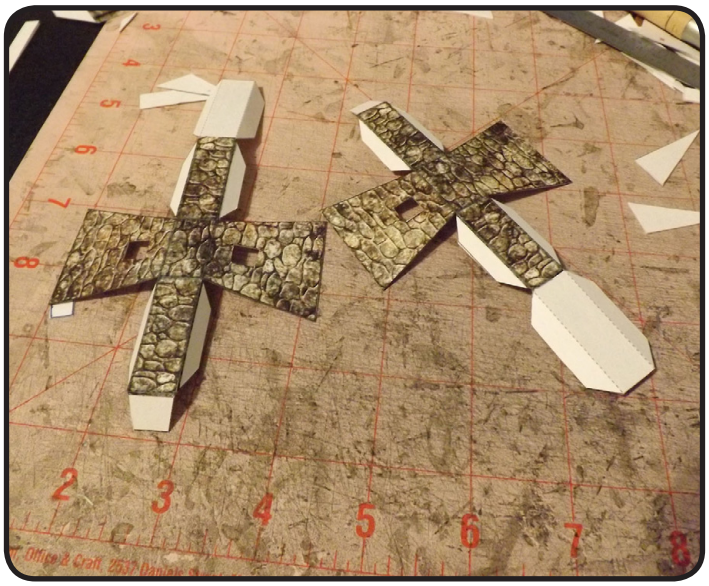
13: Use a ruler to reach include the wheel to apply pressure to the side you glued (face down against the table.)



14: The finished water wheel.



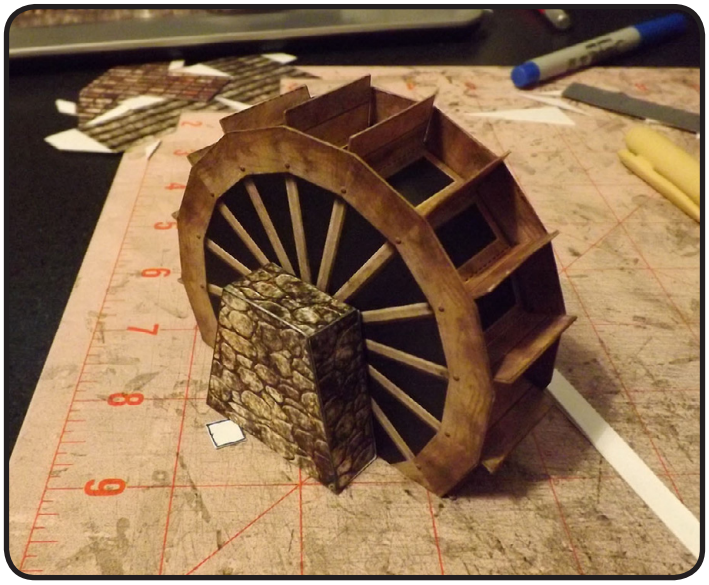
15: Glue the axle.



16: Cut, score and test fold the wheel mounts.



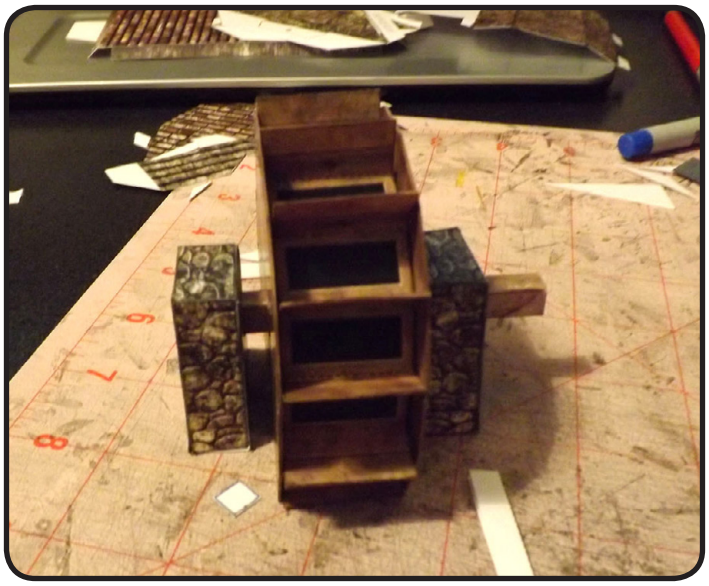
17: Glue the side seam, then finish with the bottom flap.



18: Insert the axle through the wheel, then insert through the supports.



19: Leave the long end of the axle to insert into the mill house wall.



20: Another view (you can leave as much or as little space as you like between the wheel and the supports.)



21: Cut and score the chimney. Note the attachment 'hooks' on each side.



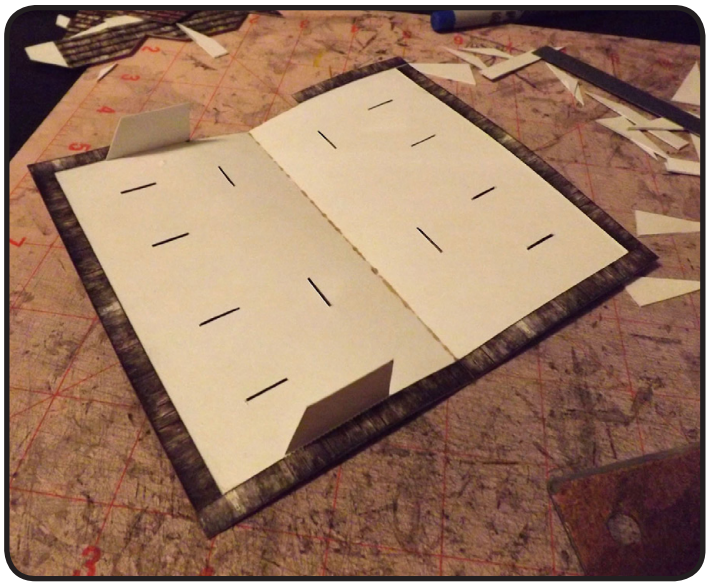
22: Glue the main seam, note how the attachment hooks are not scored and remain protruding when the chimney is folded into shape.



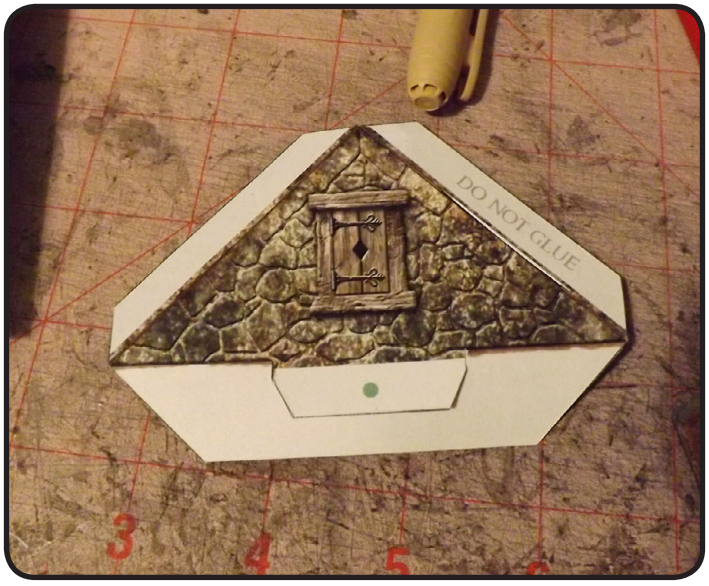
23: If you want your chimney to fold flat, do not glue the top cap into place, otherwise glue it and set aside to dry.



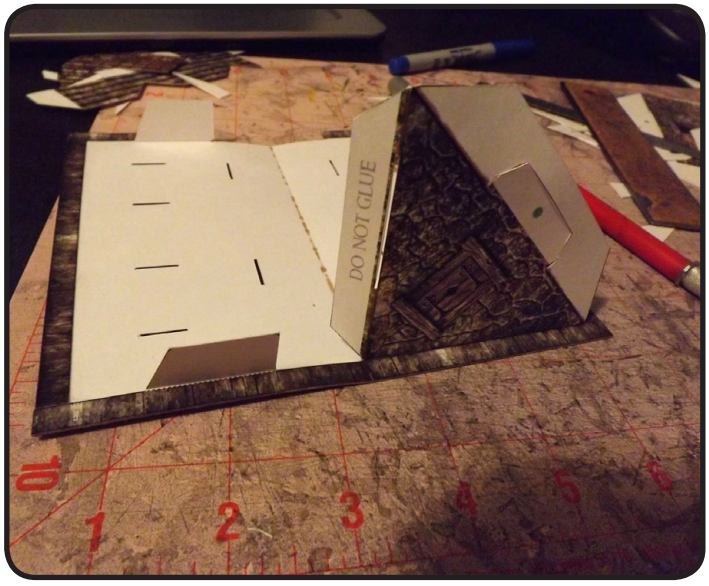
24: Cut, score and test fold the main roof piece.



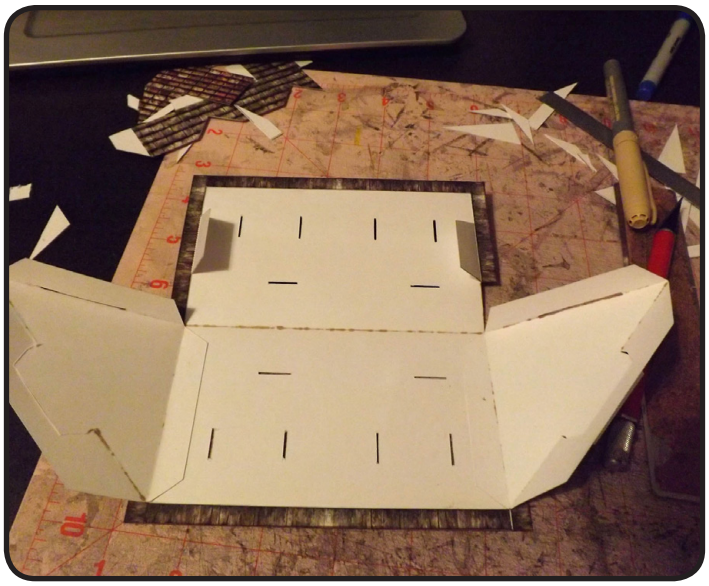
25: Glue the edge flaps over, making sure not to glue the two end attachment tabs (large white tabs sticking up in photo.)



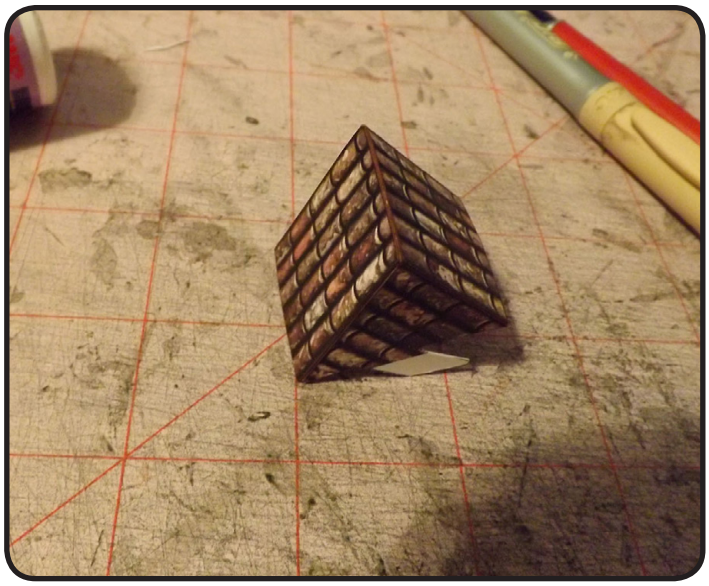
26: Cut and score the two end pieces.



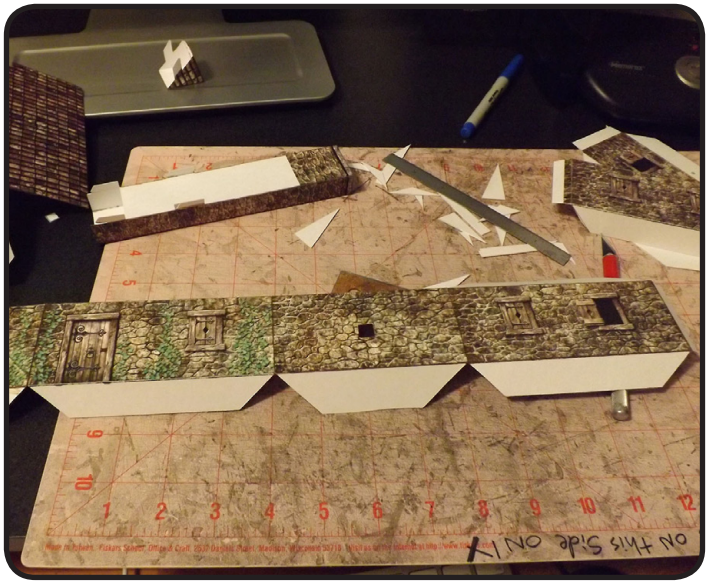
27: Glue as shown to the roof, making sure the side with the slot aligns with the side that has the attachment tab.



28: This is how the finished roof section should look.



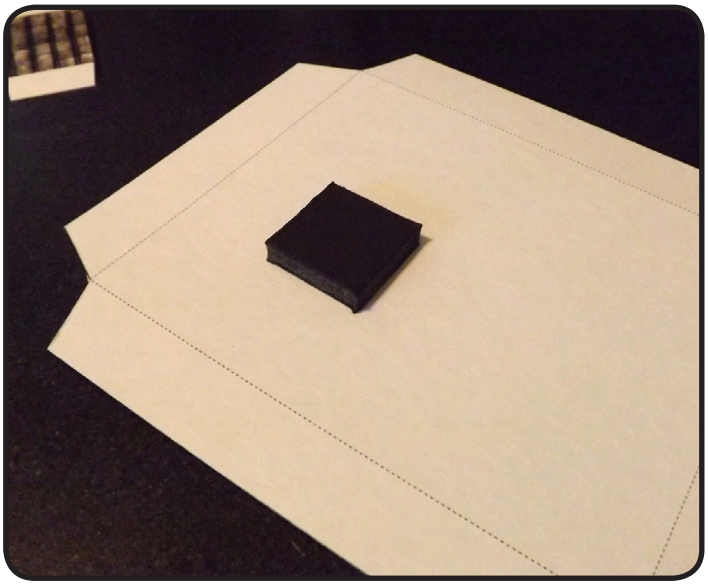
29: Glue the rooftop miniature adaptors as shown.



30: The two main floors assemble the same. Cut and score each wall section, then glue the two wall sections together into a square.



31: What the completed mill should look like.



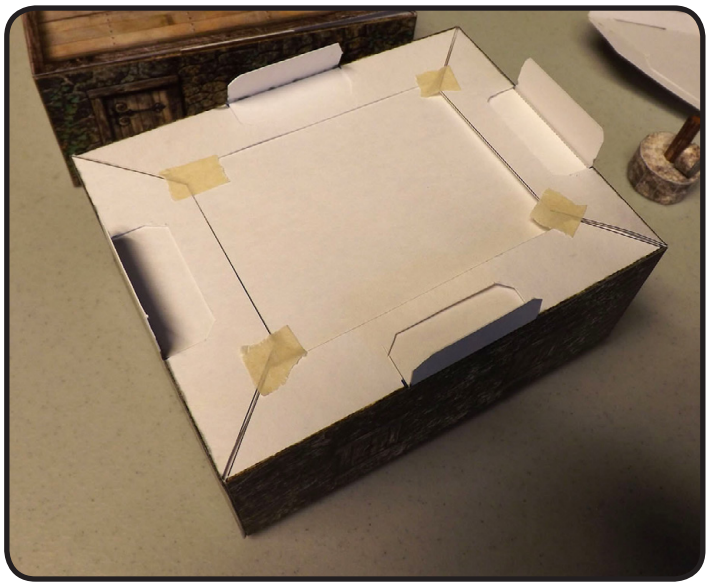
32: You have the option of using an E-Z LOCK hole cut into a tile to secure your building in place. On the spacer for the bottom floor, glue the foamcore cutout from the E-Z LOCK hole as shown.



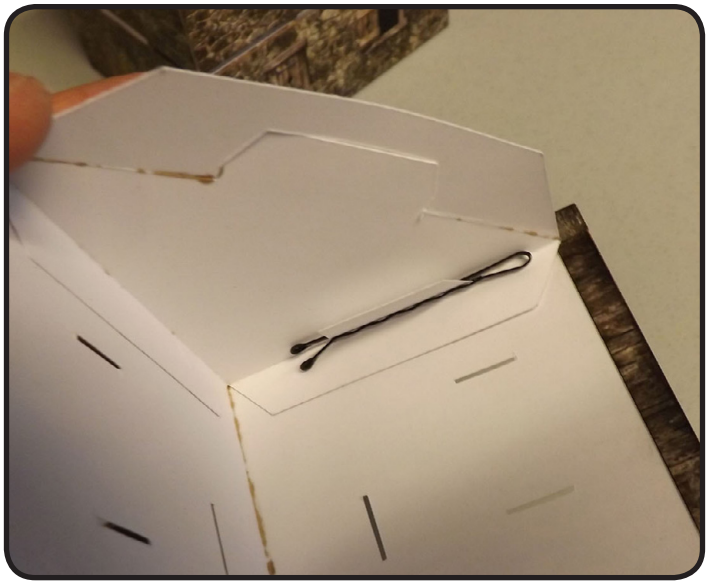
33: Insert through the top, and push to the bottom. This holds your walls into place.



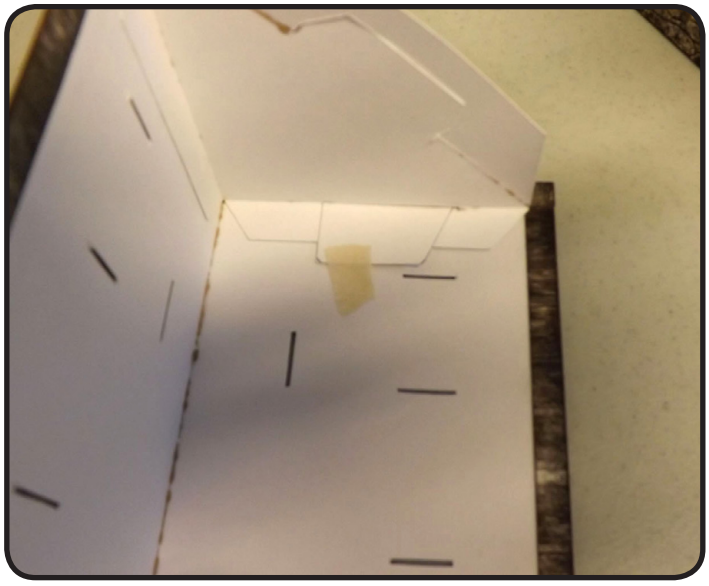
34: If interior gameplay is desired, you can insert the upper floor piece through the attachment slots.



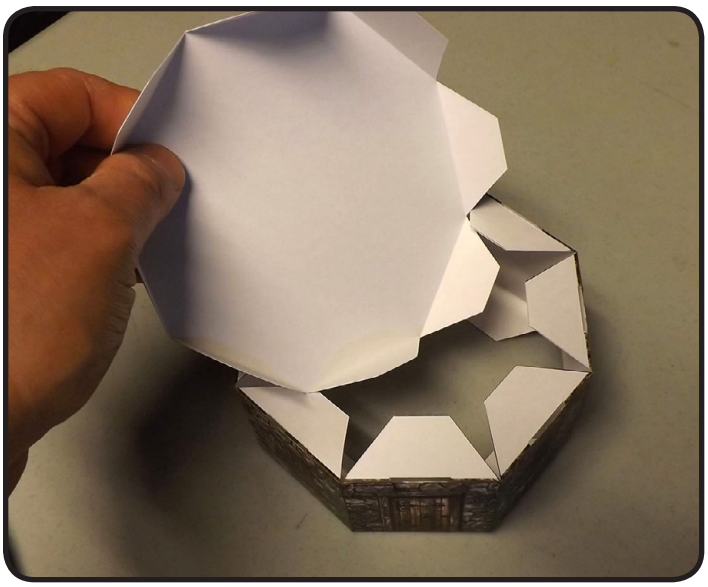
35: If your flaps get a little bowed or loose after use and will not settle snugly against the lower level, just put a little swatch of tape as shown to temporarily hold them in place, which can then be easily removed to fold down flat again.



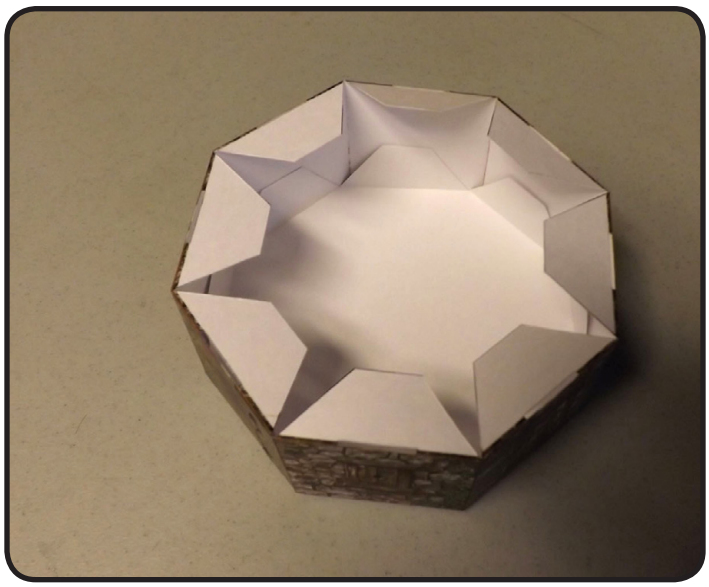
36: To secure the flaps on the roof, we recommend using a bobbypin or a paperclip to help keep the tab from slipping back through. This isn't totally necessary, but it does keep things tightly together if you remove and replace the roof.



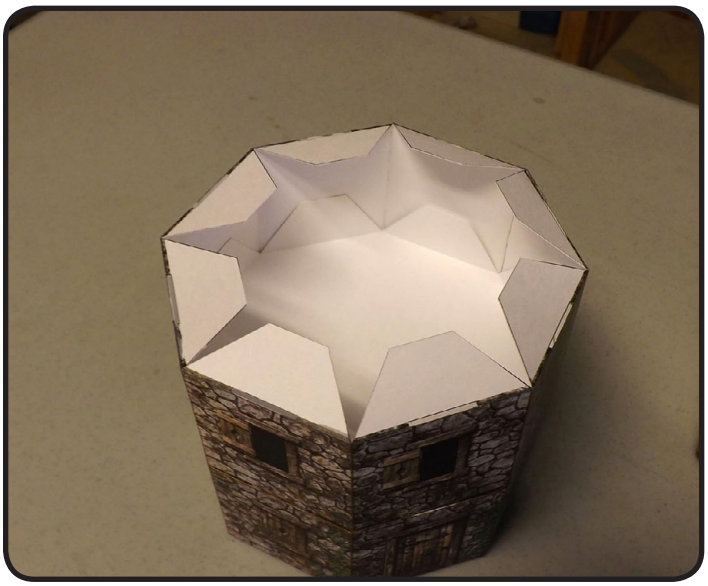
37: An alternate method is a small piece of tape.



38: The windmill assembles just like the watermill, just force the walls into shape using the interior braces. Insert through the top opening and push down.



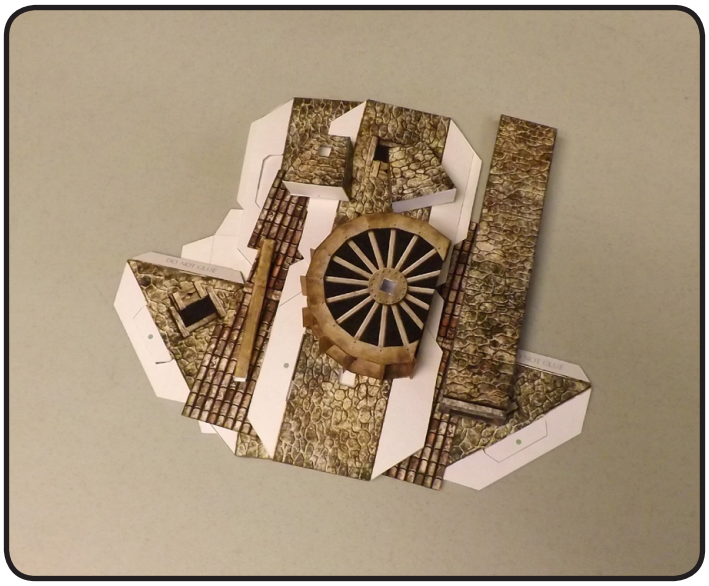
39: The interior brace in place.



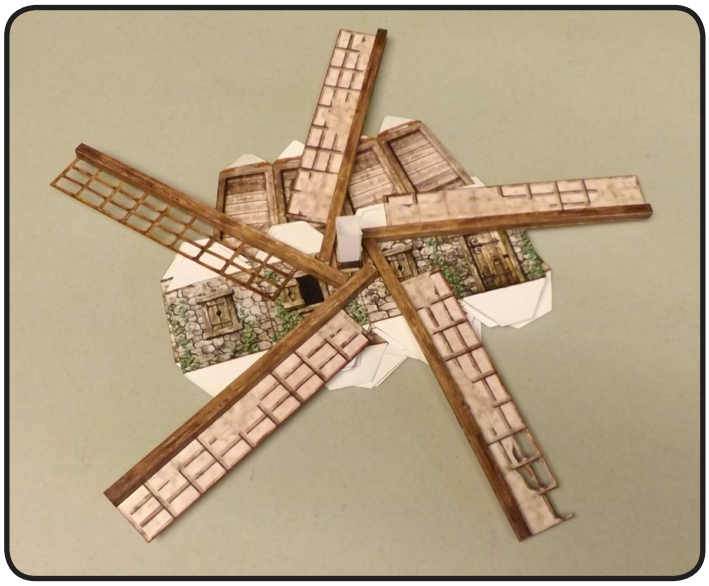
40: Stack levels by using the slots on the top edge of the lower level and the bottom facing tabs of the upper level.



41: Another view of the tabs and slots.



42: The collapsed watermill.

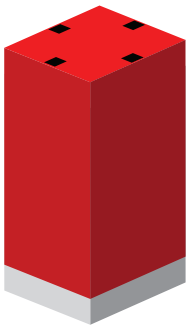


43: The collapsed windmill.

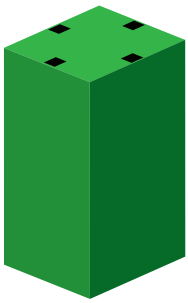
RAVENFELL: MILLS

E-Z LOCK PARTS

Note: Not all E-Z LOCK parts are used for every set, but we include these diagrams to be an overview of the system.



E-Z Lock Pillar



Standard Pillar



E-Z Lock Connector

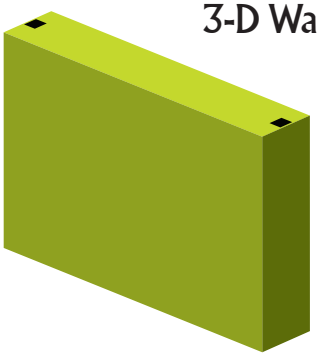


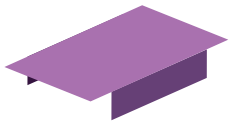
Connector



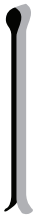
Connector Link

3-D Wall

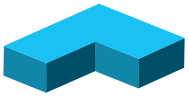




E-Z Lock Cover



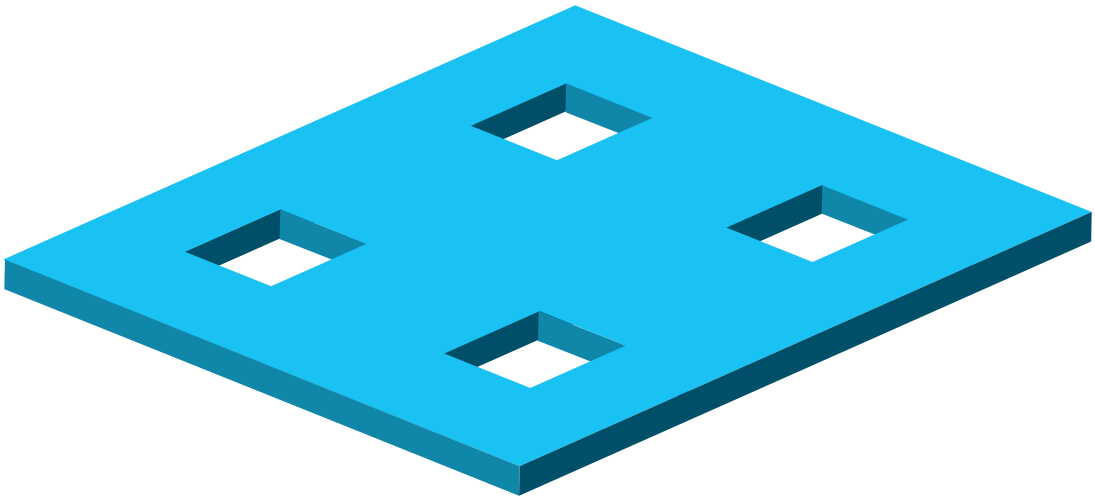
Bobby Pin/ Hair pin



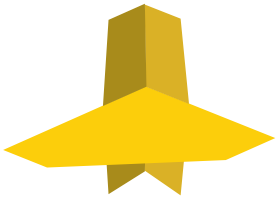
Connector Base (Corner)



Connector Base (Center)

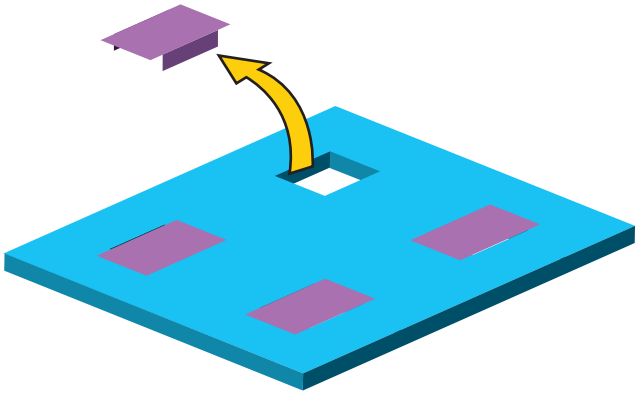


E-Z Lock Tile

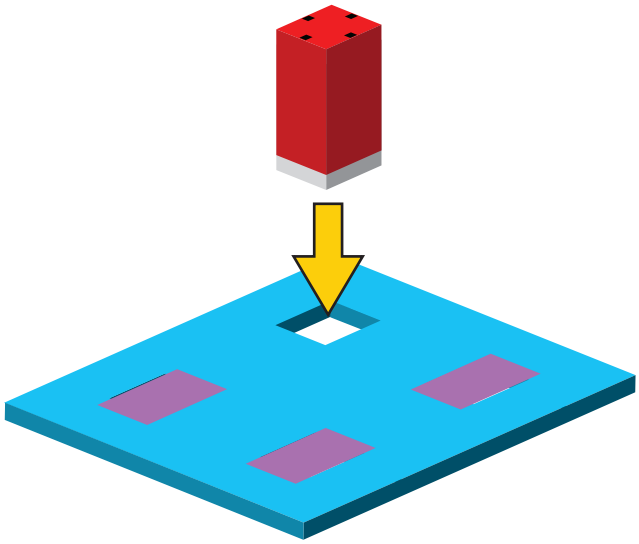


E-Z Lock Support

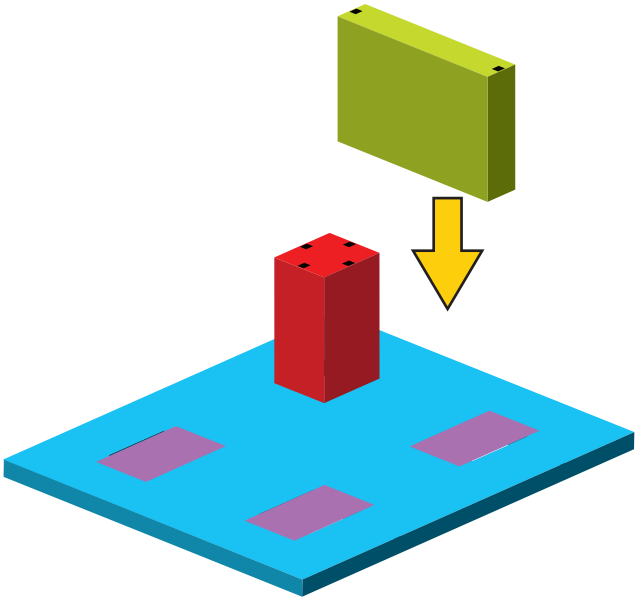
Ravenfell: Mills



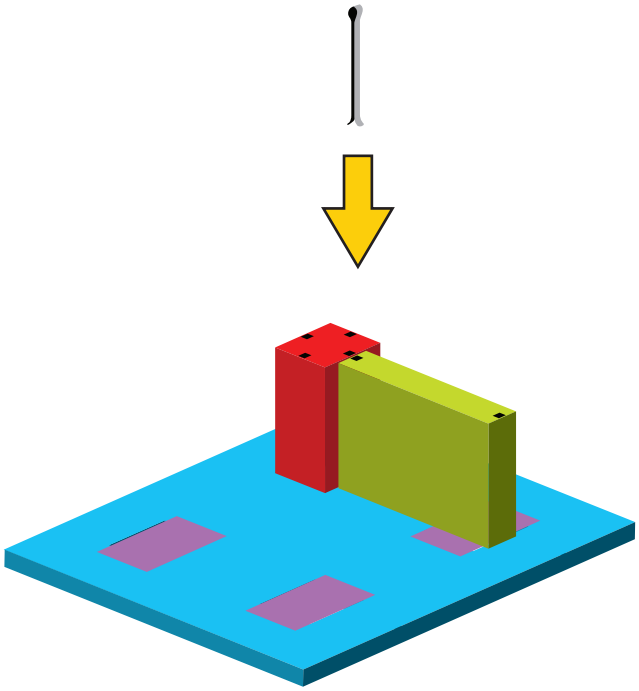
Use the cover pieces to hide the holes in your tile when not in use. Remove covers where you need to use an E-Z LOCK pillar (you only need one to anchor a large section.) Most dungeon layouts only use 2-3 as that is plenty to keep the layout bump proof.)



Insert the E-Z LOCK pillar as shown above.



Add a wall section next to your pillar.

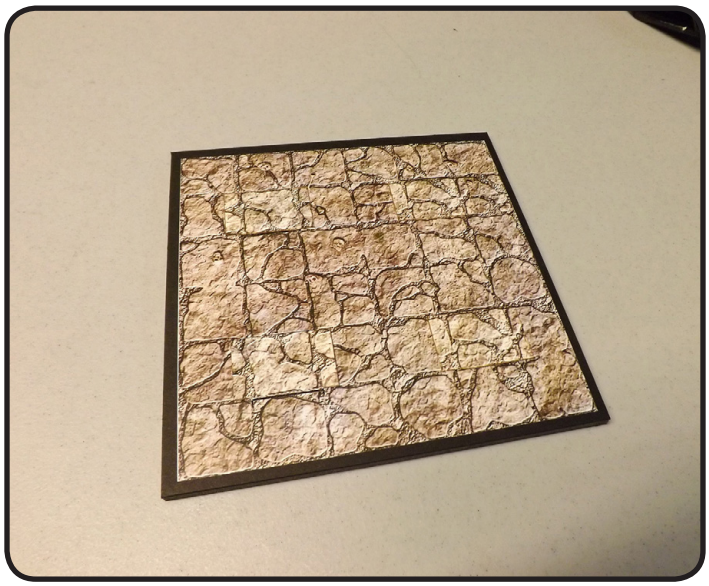


Use standard 2” bobby-pins or hairpins to lock the pieces together.

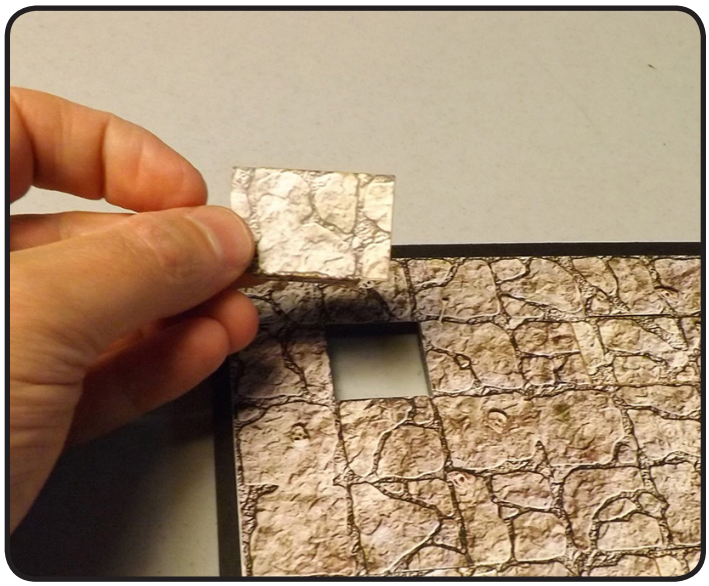
RAVENFELL: MILLS

Examples of E-Z LOCK construction

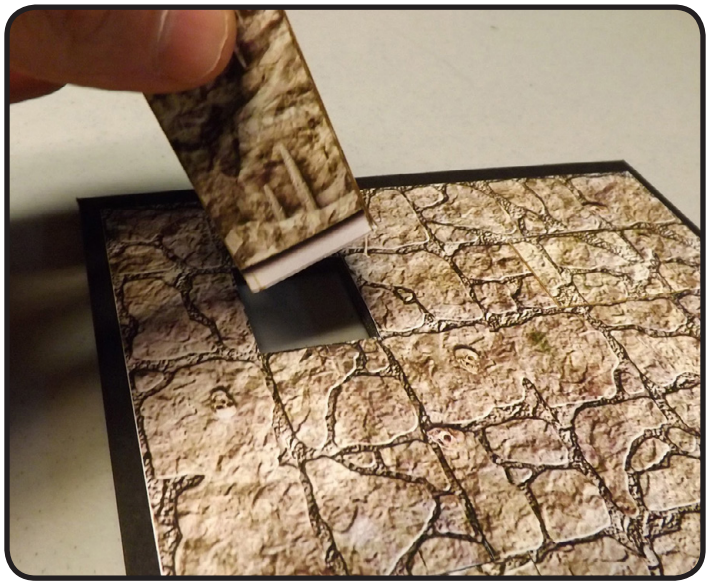
(Example pieces are from the Mines of the Mountain King terrain set.)



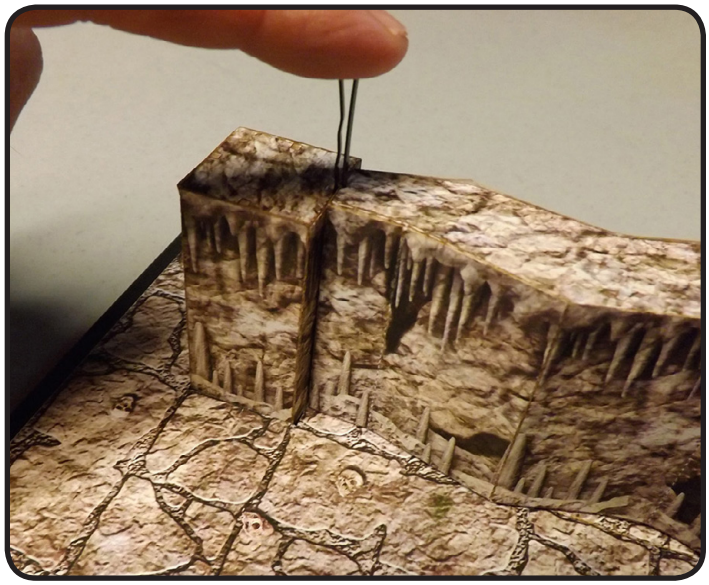
1: Sample tile with 1” squares cut out and covered with E-Z LOCK covers.



2: Remove cover.



3: Insert a 1” E-Z LOCK pillar.



4: Begin linking walls to the E-Z LOCK pillar with bobby pins. You will only need a few E-Z LOCK pillars in a layout as they are simple for preventing lateral shifting during gameplay. Standard pillars can be used for most of the layout.

Ravenfell: Mills



If you are not using the interior 2D tiles, you can position your mill house closer to the waterwheel. If you are using the 2D tile with the interior floorplan and the E-Z LOCK hole, your mill house will set further away from the waterwheel (don't worry, the axle is designed to accommodate both locations.)

Ravenfell: Mills



©2014 Fat Dragon Games. Ravenfell is a trademark of Fat Dragon Games. All rights reserved.
Figures by Reaper Miniatures (www.reapermini.com)

www.fatdragongames.com